Appendix B: Clean Version of the Claims

1. An ultrasonic flow sensor, comprising
– at least one ultrasonic transducer for transmitting and receiving ultrasonic signals and
– a receiver unit (4) connected to the ultrasonic transducer that detects a predetermined event (N) of the ultrasonic signal as a reception time (t_0),
wherein the receiver unit (4)
determines a time (t_1) of a value characteristic of the ultrasonic signal as well as a time shift (Δt) of the time (t_1) relative to the reception time (t_0) and
uses the time shift (Δt) to determine a correct time value for the reception time (t_0).

2. The ultrasonic flow sensor as recited in claim 1,
wherein the receiver unit (4) determines a maximum amplitude (Amp_{max}) of the ultrasonic signal as a characteristic value.

3. The ultrasonic flow sensor as recited in claim 1,
wherein the receiver unit (4) determines a chronological position (T_S) of the focal point of either the ultrasonic signal or its envelope curve (6) as the characteristic value.

4. The ultrasonic flow sensor as recited in claim 1,
wherein the receiver unit (4) includes a comparator (10) whose input is supplied with a transducer output signal (5) and a reference signal (SW), and the receiver unit (4) determines a piece of information about the time (t_1) of the characteristic value from the output signal of the comparator (10).

5. The ultrasonic flow sensor as recited in claim 4,
wherein the reference signal supplied to the comparator (10) is a threshold (SW) not equal to zero and the output signal of the comparator (10) is a pulse width modulated signal (K1) from which the time (t_1) of the characteristic value is determined.

6. The ultrasonic flow sensor as recited in claim 1,
wherein the reception time (t_0) is corrected as a function of the time shift (Δt).

7. A method for detection of an ultrasonic signal (A0, B0) in an ultrasonic transducer by means of a receiver unit (4), which detects a predetermined event (N) of the ultrasonic signal as a reception time (t_0),
wherein the receiver unit (4) determines a time (t_1) of a value characteristic of the ultrasonic signal and determines a time shift (Δt) of the time (t_1) in relation to the reception time (t_0) and uses the time shift (Δt) to determine a correct time value for the reception time (t_0).

8. The method as recited in claim 7,
wherein the receiver unit (4) determines a maximum amplitude (Amp_{max}) of the ultrasonic signal as a characteristic value.

9. The method as recited in claim 7,
wherein the receiver unit (4) determines a chronological position of a focal point of the ultrasonic signal or its envelope curve (6) as a characteristic value.